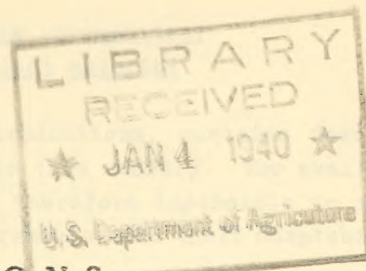


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PLANT INTRODUCTIONS

TWENTY EIGHTH ANNUAL DESCRIPTIVE LIST

Season 1939-40

Containing Descriptions of the More Important

Introduced Plants Now Ready

for Listed Experimenters

Division of Plant Exploration and Introduction

Bureau of Plant Industry

United States Department of Agriculture

Washington, D. C.



PLANT INTRODUCTION
TWENTY EIGHTH
ANNUAL DESCRIPTIVE LIST
Season 1938-40

All plants sent out by this Division to experimenters are inspected at the Plant Introduction Gardens by officers of the Bureau of Entomology and Plant Quarantine. At the time this Annual List goes to press the inspection has not been made. It is possible, therefore, that quarantine regulations may prevent the sending out of a few plants herein described.

Division of Plant Exploration and Introduction
Bureau of Plant Industry
United States Department of Agriculture
Washington, D. C.

PLANT INTRODUCTIONS

Experimenters will please read carefully this introductory note before sending in their requests for plant material.

This, the Twenty-eighth Annual List of Plant Introductions, contains descriptions of many new and rare plants, not yet widely tested in this country. The available information concerning some of them is meager, and it is therefore impossible to speak with assurance regarding their value, their cultural requirements, and their adaptability to the various climates and soils of the United States.

These plants have been imported because it is believed some direct or indirect use can be made of them. They are first placed at the disposal of the experts engaged in plant breeding, crop acclimatization, and horticultural investigations generally in the United States Department of Agriculture and the State Experiment Stations. Some of them have been grown in sufficient quantity, however, so that they can be distributed to some private experimenters who have the facilities to test them carefully. The List is therefore sent to those who have qualified as experimenters with the Division of Plant Exploration and Introduction, and who have indicated a willingness to care for material sent them.

Accompanying this Annual List are complete Check Lists showing all plants available for distribution at the several Plant Introduction Gardens during the season 1939-40 and the Garden from which available. Applicants for material should fill out all blanks at the top of the Check List of each garden from which they request plants, place a mark to the left of the P. I. (Plant Introduction) number of each plant desired, and return the lists promptly to this Division. Items marked with an asterisk (*) are available in somewhat larger numbers, for propagating purposes, to interested nurserymen having exceptional facilities.

It should be distinctly understood that the Division does not agree to supply all the plants requested. It reserves the right to limit the number or to withhold the entire request of any experimenter in order that it may place the material according to its best judgment.

The shipping season extends, as a rule, from December 1 to April 1. While it may not always be practicable to ship plants at the time preferred by experimenters, it is much desired that when such preference exists it be indicated in the space provided for it at the head of the Check List.

These plants are placed in the hands of experimenters with the understanding that reports on their behavior will be sent to this Division from time to time, particularly noting their flowering, fruiting, hardiness, utilization, and any other interesting features. Reports should be prepared (preferably, but not necessarily, on regular forms) and sent, without special request, whenever in the judgment of the experimenter the plant has reached a stage that makes a report worth while; usually, however, unless the plant has flowered or died, reports should not be made within the first year or two. Regular report forms will be furnished by this Division, upon request. When all the plants of any P.I. number have died, this should be reported promptly by letter, with the cause of death indicated when known. It is expected that experimenters will keep their plants labeled at all times, and keep accurate charts showing the location and P.I. number of each one. Failure to comply with these directions will be considered sufficient reason for a discontinuance of the cooperative relation.

It will be necessary for experimenters to preserve and refer to the Annual Lists of Plant Introductions or to the Inventories published by the Division, for information regarding the plants. Each Inventory lists the seeds and plants imported during a period of three months. Its object is to serve as an historical record; it is not printed immediately following the arrival of the plants, but eighteen to twenty-four months later. The edition is limited and it cannot be supplied to all experimenters. This makes essential the preservation of the Annual Descriptive List as a work of reference, and the Division desires to urge upon its cooperators the importance of this step. Unless the Annual Lists are preserved, the Division later will be flooded with inquiries from persons who have received plants and who desire information concerning them. Answering such inquiries involves much unnecessary labor and expense.

For convenience in using the descriptive list, after each description is given in parenthesis the name of the garden or gardens at which the plants are being grown.

Answers to this Annual List are required from all planters and the Division desires to urge upon its cooperators the importance of this step. Unless the Annual Lists are preserved, the Division later will be flooded with inquiries from persons who have received plants and who desire information concerning them. Answering such inquiries involves much unnecessary labor and expense.

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Descriptive List.

Numbers preceding plant names are P. I. numbers and, in correspondence concerning any plant, both number and name always must be given.

Nurserymen please see statement at end of paragraph 3 of introductory note, concerning items marked with an asterisk (*).

124956. ABELIA. "EDWARD GOUCHER".* A variety of Abelia grown from a cross between A. grandiflora and A. schumannii, made at Glenn Dale, Maryland, by the late Edward Goucher, Bureau of Plant Industry. The features of both species are effectively combined in this variety. In habit of growth, climatic adaptability, and in free-flowering characteristics it much resembles A. grandiflora. In the large tubular lavender-pink flowers, it resembles A. schumannii. At Washington the plants are at least as hardy as A. grandiflora. For trial from Pennsylvania southward and on the Pacific coast or wherever A. grandiflora succeeds. (Glenn Dale, Md.)

122630. ABIES SP. (Pinaceae). Fir. From Turkey. Collected at Ulu Dag, by H. L. Westover and F. L. Wellman, Bureau of Plant Industry. The dark green needles of the seedlings show no distinguishing features. For trial in the southern half of the United States. (Glenn Dale, Md.)

132795. ACACIA KOA. (Mimosaceae.) Koa. From Hawaii. Presented by L. W. Bryan, Board of Commissioners of Agriculture and Forestry, Hilo. A large spreading tropical tree, up to 60 feet high, native to the Hawaiian Islands. The coriaceous falcate phyllodes are 5 to 7 inches long, and the small white flowers are in globular heads gathered into axillary racemes. The wood, which is called Hawaiian mahogany, is excellent for veneers, and the bark is used for tanning. The plants will be ready in the late spring. For trial in southern California and southern Florida. (Chico, Calif.)

123453. ACACIA SP. From India. Collected at Ootacamund, Nilgiri, by Walter Koelz, Bureau of Plant Industry. A quick-growing tree with attractive pinnate foliage and an abundance of fragrant creamy flowers. In India it is often planted in groves. It is the hardiest of the acacias tested at Chico, California. For trial in California and the Southwest and in the Gulf region. (Chico, Calif.)

131052. AGASTACHE RUGOSA.* Wrinkled giant-hyssop. From Manchuria. Presented by B. V. Skvortzov, Harbin. A vigorous summer-flowering perennial herb, 2 to 4 feet high, with cordate serrate rugose fragrant leaves and attractive lavender flowers in reddish calyces crowded into dense oblong spikes. Native to China. For trial in all parts of the country. (Glenn Dale, Md.)

133414. AGASTACHE SP.* From Arizona. Collected at Sycamore Canyon by L. N. Goodding, Soil Conservation Service. An attractive herbaceous perennial with gray-green deltoid leaves which give off a delightful minty fragrance when bruised or brushed. The clear-lavender flowers are produced from midsummer until frost, in showy spikes which stand just above the leaves. The compact plants reach a height of 15 to 18 inches. For trial in all but the coldest states. (Glenn Dale, Md.)

129183. *ALBIZZIA THORELII*. (Mimosaceae.) From China. Collected near Opie Hsien, Szechwan Province, by R. C. Ching, The Lu-Shan Arboretum and Botanic Garden, Lu-Shan, Kiukiang Province. A deciduous tree up to 35 feet high, with bipinnate leaves, very similar to those of *Albizzia julibrissin*. For trial in the lower South and on the Pacific Coast. (Glenn Dale, Md.)

129184. *ALNUS SP.** (Betulaceae.) From China. Presented by the Lu-Shan Arboretum and Botanic Garden, Lu Shan, Kiukiang. The seedlings have attractive, glossy, elmlike leaves but the mature habit of the plant is unknown. For trial in all but the warmest and coldest parts of the United States. (Glenn Dale, Md.)

127783. *ALONSOA ACUTIFOLIA*. (Scrophulariaceae.) From Peru. Collected by H. L. Blood and L. Tremelling, Bureau of Plant Industry. Local name, *Shohompay*. A stout bushy winter-flowering perennial about 2 feet high, with broad-lanceolate leaves and showy orange flowers, found growing in an open alpine meadow at an altitude of 11,500 feet. Plants at Glenn Dale, Maryland, have grown well during the summer but have not flowered. For trial in the Gulf region and on the Pacific coast. (Glenn Dale, Md.)

101289. *AMPHICOME ARGUTA*. (Bignoniaceae.) From New Zealand. Obtained from A. Wilkinson, Tauranga. A low herbaceous perennial, not over 3 feet high, native to northern India. The compound leaves are made up of 5 to 9 deeply serrate lanceolate leaflets 2 inches long and the rose-colored funnel-shaped flowers, 1 inch long, are borne in terminal racemes 6 to 8 inches long. For trial in the middle part of the California coast and in the Gulf region. (Chico, Calif.)

129928. *AMPHICOME ARGUTA.** From China. Collected at an altitude of about 7,500 feet, near Guhtzun, Muli, Yunnan, in the southeastern Himalayas, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. The plant is a tender perennial from 2 to 4 feet high. The large trumpet-shaped flowers, ranging in color from light lavender to rose-pink, are borne throughout the year in one-sided racemes well above the foliage. The leaves are pinnately compound with 4 to 6 pairs of leaflets which have irregularly serrate margins. For trial only in the warmest parts of the country. (Glenn Dale, Md.)

119220. *ARISAEMA SP.* (Araceae.) From India. Collected near Kulu, Punjab, by Walter Koelz, Bureau of Plant Industry. An aroid with large 7-lobed bright-green leaves on conspicuously mottled petioles, which are produced during the summer. The corm develops to a diameter of at least 4 inches. For trial in the Southern States and on the Pacific coast. (Glenn Dale, Md.)

132193. *ARISTOLOCHIA SP.* (Aristolochiaceae.) From Brazil. Collected by Drs. K. F. Baker and J. L. Collins, Experiment Station of the Pineapple Producers' Cooperative Association, Honolulu, T. H. The aristolochias are noted for their unusual flowers, of odd colors and strange shapes. For trial in southern Florida and in the warmest parts of the Southwest. (Glenn Dale, Md.)

132194. *ARISTOLOCHIA SP.* From Paraguay. Collected by Drs. K. F. Baker and J. L. Collins, Experiment Station of the Pineapple Producers' Cooperative Association, Honolulu, T. H. Same description as for preceding (P. I. No. 132193). (Glenn Dale, Md.)

89039. ASPARAGUS DAURICUS.* (Convallariaceae.) From Manchuria. Collected near Impukujoshi by P. H. Dorsett and W. J. Morse, Bureau of Plant Industry. A plant up to 3½ feet high, found growing wild. The plant resembles the edible asparagus in appearance, except that the stems are smaller and the cladodes much narrower. There is only one cladode to a node. For trial throughout the Northern States. (Glenn Dale, Md.)

113417. ASPARAGUS PSEUDOSCABER. From Germany. Obtained from Wilhelm Pfitzer, Stuttgart. A hardy ornamental asparagus, native to Rumania, related to the edible asparagus. The stems and cladodes are much smaller, heavier, and the plant is much lower. It is offered in Europe as a substitute for *A. sprengeri* as a source of cut-flower greens, and for that purpose it is very satisfactory. For trial in all but the coldest parts of the country. (Glenn Dale, Md.)

23014. ASPARAGUS SP.* From China. Collected at Hangchow, Chekiang, by Frank N. Meyer, Bureau of Plant Industry. A very small evergreen asparagus, attaining a height of only 3 to 5 inches. It is used as a border along paths in small gardens and requires a shady situation. The plant endures light frosts without injury. For trial in the middle and lower South and in southern California. (Savannah, Ga.)

129884. BORNOA CRASSISPATHA. (Phoenicaceae.) Palm. From Haiti. Presented by B. H. A. Groth, Fond des Negres. A large cocoid palm, from the southern peninsula of Haiti, with a tall columnar trunk and an ample crown of spreading leaves closely and regularly pinnate. The inflorescences are very short and compact, bearing large numbers of rather thin-shelled edible nuts somewhat similar to those of *Jubaea*. For trial in southern Florida and the warmest parts of southern California. (Glenn Dale, Md.)

128437. BACTRIS SP. (Phoenicaceae.) From Costa Rica. Collected at Cairo by H. F. Loomis, Bureau of Plant Industry. *Huiscoyol*. A slender, spiny-trunked, cespitose, undergrowth palm 12 to 15 feet high, with pinnatisect leaves and a loose inflorescence. For trial in southern and central Florida and the warmest parts of southern California. (Glenn Dale, Md.)

129190. BAUHINIA GODEFROYI.* (Caesalpiniaceae.) From China. Collected near Opie Hsien, Szechwan Province, by R. C. Ching, The Lu Shan Arboretum and Botanic Garden, Lu Shan, Kiangsi Province. A low shrubby climber with slender blackish branches and spiral tendrils. The membranous leaves 2 to 3 inches long, are divided to the center into two triangular lobes, and the flowers are in slender racemes 4 inches long. For trial in the warmest parts of the South and Southwest. (Glenn Dale, Md.)

129188. BAUHINIA SAIGONENSIS. From China. Collected near Opie Hsien, Szechwan Province, by R. C. Ching, The Lu Shan Arboretum and Botanic Garden, Lu Shan, Kiangsi Province. A vine which climbs by means of tendrils terminating short lateral branches. The firm roundish leaves, about 2 inches long, are divided to the center into 2 rounded lobes, and the pale-rose flowers, nearly an inch long, are in small terminal corymbs. Native to Cochinchina. For trial in the warmer parts of Florida, the Gulf Coast, and California. (Glenn Dale, Md.)

129189. *BAUHINIA* SP. From China. Collected near Opie Hsien, Szechwan Province, by Yu-shin Liu of the Lu-shan Arboretum and Botanical Garden. A shrubby bauhinia with moderately large leaves. For trial in the warmest parts of Florida, the Gulf coast, and California. (Glenn Dale, Md.)

112675. *BELOPERONE COMOSA*. (Acanthaceae.) From Mexico. Presented by Peter Heinz, Brownsville, Texas. An herbaceous perennial with showy scarlet-orange flowers in axillary purplish-bracted spikes. The leaves, ovate to elliptical in shape, are frequently blotched with dull purple at the outer ends. For trial in the milder parts of the South and Southwest. (Glenn Dale, Md.)

129960. *BERGENIA PURPURASCENS*. (Saxifragaceae.) From China. Collected at Atuntze, Dokerla, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. A beautiful herbaceous rock plant found growing between 10,000 and 14,000 feet altitude. The bright glossy green leaves are elegantly margined with red, and the scape and inflorescence are bright vinous-red purple. For trial in all but the warmest parts of the United States. (Glenn Dale, Md.)

129961. *BERGENIA* SP.* From China. Collected at an elevation of about 12,000 feet, near Wati, Muli, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. A stemless perennial with large persistent leaves. The flowers of this genus range from white to pink and purple, and may be in low dense clusters or in tall panicles carried above the leaves. The leaves of some species take on attractive winter colors. For trial throughout the Northern States. (Glenn Dale, Md.)

130479. *BERGENIA* SP. From China. Collected at Haba, Chungtien, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology and presented by the Arnold Arboretum, Jamaica Plain, Mass. Same description as for P. I. No. 129961. (Glenn Dale, Md.)

127050. *BETULA ATRATA*.* (Betulaceae.) From Poland. Received from the Kornik Gardens and Arboretum, Kornik. A tall birch up to about 60 feet high, with broad ovate or ovate-rotund leaves about 3 inches long. Native to the Czecho-Moravian highlands. It is allied to *Betula pubescens*. For trial throughout the Northern States and in the cooler parts of the South. (Glenn Dale, Md.)

130480. *BETULA UTILIS*.* Birch. From China. Collected in Yunnan by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. A tree 40 to 60 feet high, with red-brown trunk and branches, and bark which peels off in papery flakes. It is native to subtropical regions of the Himalayas. The oval, coarsely toothed, sharp-pointed leaves, 3 inches long, are dark green above and paler beneath. In winter the orange-chocolate color of the twigs is very striking. For trial in all but the coldest parts of the country. (Glenn Dale, Md.)

129194. *BETULA* SP. From China. Collected in Tien Chuan Hsien, Szechwan Province, and presented by the Lu-Shan Arboretum and Botanic Garden, Kiukiang. The seedlings are very similar to those of *Betula utilis* (P.I. No. 130480). (Glenn Dale, Md.)

129196. *BETULA* SP. From China. Collected at an altitude of about 10,000 feet in Tien Chuan Hsien, Szechwan Province, and presented by the Lu-Shan Arboretum and Botanic Garden, Kiukiang. Same description as for preceding (P. I. No. 129194). (Glenn Dale, Md.)

129962. *BETULA* SP. From China. Collected at Atuntze (Dokerla), by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. Same description as for P. I. No. 129194. (Glenn Dale, Md.)

129965. *BETULA* SP. From China. Collected at an elevation of about 10,000 feet, near Tehgoh, Chungtien, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. On seedling plants, the leaves of this birch are roughly triangular in shape, measuring about 4 inches long and 3 inches wide. On many leaves a pair of small lateral lobes is developed. For trial in the northern half of the country. (Glenn Dale, Md.)

129966. *BETULA* SP. From China. Collected at an elevation of about 12,000 feet near Wati, Muli, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. Same description as for the preceding (P. I. No. 129965). (Glenn Dale, Md.)

129197. *BUDDLEIA* SP. (Loganiaceae.) From China. Collected at an elevation of about 7,000 feet near Tien Chuan Hsien, and presented by the Lu-Shan Arboretum and Botanic Garden, Kiukiang. The buddleias are mostly shrubs or small trees and are grown chiefly for their flowers, produced in profusion in showy panicles. For trial in the lower South and on the Pacific coast. (Glenn Dale, Md.)

118761. *CALLISTEMON CITRINUS*. Bottlebrush. From California. A selection made at the Plant Introduction Garden, Chico, California, from second-generation seedlings of a plant grown in New South Wales as *Callistemon "hortensia"*. The present plant is a shrub 5 to 6 feet high, with a profusion of flowers with long, handsome, very dark-red stamens, the flowers being arranged along the leafy stems in the familiar bottlebrush form. It is hardier than most other callistemons, having been uninjured by a temperature of 24° F. For trial in the milder parts of California and the Gulf region. (Chico, Calif.)

101202. *CALOTHAMNUS LONGISSIMUS*. From Australia. Presented by Edwin Ashby, Blackwood, South Australia. A low spreading evergreen shrub with softly pubescent, corky branches. The leaves are terete, from 6 to 12 inches long, glabrous and dark green. The small flowers embedded in the swollen corky stems have long brilliant stamens. It has proved tolerant of high temperatures at Chico, California, but the plants froze to the ground at a temperature of 12° F. For trial in the warmer parts of California and the Southwest. (Chico, Calif.)

125136. *CARMICHAELIA GRANDIFLORA*. (Fabaceae.) From New Zealand. Obtained from Mrs. R. T. Richards, Canterbury. An erect or spreading evergreen shrub 2 to 8 feet high, resembling the broom, to which it is related. The branches and crowded branchlets are more or less compressed, deeply grooved, and green. The leaves are numerous,

pinnately 3- to 5-foliolate, and silky pubescent when young. In exposed situations, or in dry seasons, the plants may be leafless. The small lavender-pink flowers, in lax racemes an inch long, cover the plants in early summer. It is native to New Zealand, where it is highly prized. For trial on the Pacific coast and in the mildest parts of the South. (Glenn Dale, Md.)

125137. *CARMICHAELIA GRANDIFLORA DIVARICATA*. From New Zealand. Obtained from Mrs. R. T. Richards, Canterbury. This differs from the preceding (P. I. No. 125136) in its right-angled branching, and in the slightly smaller flowers. For trial on the Pacific Coast and in the mildest parts of the South. (Glenn Dale, Md.)

125217. *CARMICHAELIA ODORATA*. From New Zealand. Obtained from Mrs. R. T. Richards, Canterbury. A much-branched shrub, 3 to 10 feet high, leafy in spring and early summer, fully as attractive as *C. grandiflora*, to which it is closely allied. The slender erect racemes of purple, intensely fragrant flowers are borne on pendulous branches in early summer. It is native to New Zealand. For trial on the Pacific coast and in the mildest parts of the South. (Glenn Dale, Md.)

113760. *CASSIA EREMOPHILA*. (Caesalpiniaceae.) From Australia. Presented by the Director, Melbourne Botanic Garden and National Herbarium, South Yarra, Victoria. A handsome shrub 5 feet high, with leaves made up of two pairs of narrow leaflets, and yellow flowers. The leaves and pods are said to be eaten by stock. For trial in the milder parts of California and the Southwest and in the Gulf region. (Chico, Calif.)

114726. *CELASTRUS LOESENERI*. (Celastraceae.) From China. Collected in Szechwan Province and presented by the Botanic Garden at Nanking. A vigorous, deciduous woody twiner up to about 20 feet; with glossy, deep-green elliptic-lanceolate crenate-serrate leaves. The flowers are in short lateral and terminal racemes and are followed by rather large yellow capsules, which when mature expose the red arils of the seeds within, as in the well-known bittersweet. For trial in all but the coldest and warmest parts of the United States. (Glenn Dale, Md.)

126276. *CLEMATIS ORIENTALIS*. (Ranunculaceae.) From Afghanistan. Collected at an elevation of 9,000 feet, near Krunn, by Walter Koelz, Bureau of Plant Industry. A vine growing to a height of about 15 feet. The golden flowers, about 1½ inches across, are borne in mid-summer. It is said to be very showy when in fruit. For trial throughout the United States. (Glenn Dale, Md.)

129989. *CORIARIA* SP.* (Coriariaceae.) From China. Collected at 7,500 feet altitude, at Haba, Chungtien, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. The coriarias are shrubs or herbaceous perennials. A number of long arching branches are produced at the crown. The showy fruits, which may be red, yellow, or black, constitute the chief ornamental feature of this genus. For trial in the Southern States and on the Pacific coast. (Glenn Dale, Md.)

129990. *CORIARIA* SP. From China. Collected near Chungtien, Haba, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. Same description as for the preceding, P. I. No. 129989. (Glenn Dale, Md.)

122867. *DESMODIUM TILIAEFOLIUM*. (Fabaceae.) From India. Collected at an elevation of about 9,000 feet near Koli, Kulu, Punjab, by Walter Koelz, Bureau of Plant Industry. A loose shrub up to 6 feet high, bearing long terminal clusters of rose to pink flowers. It is often found on dry sunny slopes. For trial from Philadelphia southward and on the Pacific coast. (Glenn Dale, Md.)

113762. *DODONAEA TRIQUETRA*. (Sapindaceae.) From Australia. Presented by the Melbourne Botanic Gardens, South Yarra. A large quick-growing, thickly branched, evergreen shrub, with light-green glabrous but rough, lanceolate leaves 3 to 4 inches long, at first glossy but in age becoming covered with bloom, which gives them a dull bluish-gray appearance. The small greenish flowers in May are followed by medium-sized, winged, persistent capsules. The shrub appears to be adapted for use as a low windbreak or hedge. It endures the high summer temperatures at Chico, California, and has withstood a minimum temperature of 26° F. uninjured. Propagation is by seed or softwood cuttings. For trial in the milder parts of California, the Southwest, and the Gulf region. (Chico, Calif.)

132026. *EUCALYPTUS AMYGDALINA*. (Myrtaceae.) Almond eucalyptus. From Australia. Presented by F. H. Baker, Richmond. Peppermint gum. An Australian tree up to 300 feet high, with lanceolate leaves 4 inches long, crowded umbels of small flowers and hemispheric fruits one-quarter-inch broad. The leaves have a strong odor of peppermint and are rich in oil. The wood is useful for many purposes but is not strong. The tree is said to endure considerable frost. For trial in southern California and southern Florida. (Chico, Calif.)

133137. *EUCALYPTUS BRIDGESIANA*. From Australia. Obtained from A. Murphy, Woy Woy, New South Wales. A tree 80 to 100 feet high, with whitish-gray wrinkled or scaly bark. The leaves are lanceolate, 6 to 12 inches long, but on young trees they are ovate. The short-stalked flowers are in clusters of about 7, on axillary flattened peduncles. The timber is fairly hard, but not very strong or durable; it is used for inside work. Native to eastern Victoria and to New South Wales. For trial in southern California and the warmer parts of the Gulf region. (Chico, Calif.)

124638. *EUCALYPTUS COCCIFERA*. From California. Presented by John McLaren, Superintendent, Golden Gate Park, San Francisco. A handsome Tasmanian eucalypt with small white flowers and leaves of two forms--in young trees there are opposite, sessile, and oval, while in full grown trees they are alternate, stalked, and very narrow. The young branches are nearly pure white. For trial in the milder parts of California and the Gulf region. (Chico, Calif.)

132627. *EUCALYPTUS CORYMBOSA*. Bloodwood. From Australia. Presented by F. H. Baker, Richmond, Victoria. A small tree with outer bark of trunk persistent, at first gray but later turning somewhat black. Leaves lanceolate, somewhat leathery. The yellowish-white, fragrant flowers, in large corymbs, are followed by fruits one-half inch wide. The brown or red wood is durable underground or in water but is inferior because of numerous gum veins. For trial in the coastal region of southern California and in southern Florida. (Chico, Calif.)

134074. *EUCALYPTUS DE BEUZEVILLEI*. From Australia. Collected by C. R. Côle, Commonwealth Forestry Bureau, in the mountains of Canberra and presented by R. G. Kappler, secretary, through Dr. Woodbridge Metcalf, College of Agriculture, Berkeley,

Calif. A tree up to 60 feet high, more or less glaucous, with smooth bark, but more or less rough-flaky bark at the butt. The mature leaves are lanceolate, slightly falcate, fragrant, thick, slightly shining, and average about 5 inches long. Native to alpine regions of New South Wales, and believed to be much more cold resistant than most eucalypts. For trial in the milder parts of California and in the Gulf region. (Chico, Calif.)

124639. EUCALYPTUS GUNNII. Cider gum. From California. Presented by John McLaren, Superintendent, Golden Gate Park, San Francisco. The cider eucalypt is usually a scrubby tree up to 50 feet high, and grows at altitudes of 4,000 to 5,000 feet in Australia. In spring, the Tasmanians made a cider from the sweetish sap. The tree is also known as sugar gum because of the sweetness of its leaves, which are browsed readily by stock. The bark yields tannin, which, in a 12-weeks' process, colors leather light brown and makes it fairly flexible. It has stood 22° F. without injury and probably will withstand considerably lower temperatures. The species is well adapted to dry situations and has grown 7 feet a year on deep, sandy soil in Florida. For trial in the milder parts of California and the Southwest and in southern Florida. (Chico, Calif.)

132628. EUCALYPTUS HAEMASTOMA. From Australia. Presented by F. H. Baker, Richmond, Victoria. A large tree with smooth mottled bark and lanceolate falcate leathery leaves. The inconspicuous flowers are followed by fruits one-quarter inch across. The tree is said to thrive in poor sandy soil but not to be suited to dry interior valleys. The timber is inferior. For trial in southern California and southern Florida. (Chico, Calif.)

132629. EUCALYPTUS MARGINATA. Jarrah. From Australia. Presented by F. H. Baker, Richmond, Victoria. A tree that grows tall under favorable conditions but which is often low, with somewhat fibrous bark, persistent or flaking off in strips. The lanceolate leaves are 3 to 6 inches long, and the white flowers, with stamens one-quarter inch long, appear in the spring. The hard wood is easily worked, takes a fine polish, is insect resistant, and said to be almost incombustible. It has a wide range of uses, both under and above ground. The tree requires a warm climate. For trial in the warmest parts of southern California and southern Florida. (Chico, Calif.)

134073. EUCALYPTUS NIPHOPHILA. From Australia. Collected by C. R. Cole, Commonwealth Forestry Bureau, in the mountains of Canberra and presented by R. G. Kappler, secretary, through Dr. Woodbridge Metcalf, College of Agriculture, Berkeley, Calif. A small crooked alpine tree or shrub 3 to 20 feet high, with several whip-like glaucous stems from a large woody rootstock. The bark is usually smooth and white. The mature leaves are alternate, petiolate, lanceolate to lanceolate-falcate, thick, leathery, shining, 1 to 3 inches long. The inflorescence is in short, axillary umbels of 3 to 7 small white flowers. Native to alpine regions of New South Wales and Victoria and believed to be much more cold resistant than most eucalypts. For trial in the milder parts of California and in the Gulf region. (Chico, Calif.)

124640. EUCALYPTUS PAUCIFLORA. From California. Presented by John McLaren, Superintendent, Golden Gate Park, San Francisco. A high-mountain Australian tree, up to 100 feet high, with spreading branches, slender, somewhat pendulous twigs, and thick ovate-lanceolate or lanceolate leaves, 4 to 8 inches long. The outer bark is decidu-

ous and the inner bark smooth and pale gray. The species has withstood a minimum temperature of 19° F. in southern California and may endure much lower. It is said to grow well in swampy lowlands. For trial in southern California and the warmer parts of the Gulf region. (Chico, Calif.)

132797. *EUCALYPTUS RUBIDA*. Candlebark gum. From Australia. Obtained from Percy Murphy. "Grandview," Woy Woy, New South Wales. An alpine or subalpine tree, 30 to 60 feet high, with smooth bark falling off in strips, found at altitudes of 1,000 to 5,000 feet in the cooler parts of Australia and in Tasmania. The narrow-lanceolate thickish leaves are equally dull green above and below, and there are three white flowers in solitary umbels. For trial in the milder parts of California and the Southwest and in the Gulf region. (Chico, Calif.)

130707. *EUCALYPTUS TETRAGONA*. From New Zealand. Presented by V. Launder Millin, Napier. A low scrubby shrub or small tree, with thick, leathery, broadly ovate to lanceolate-falcate leaves up to 4 inches long and umbels of 3 to 5 white flowers. It is native to west Australia, where it is found in barren soil near the seashore and in dry situations inland. For trial in the warmest parts of southern California and southern Florida. (Chico, Calif.)

115046. *EUPATORIUM LIGUSTRINUM*. (Asteraceae.) From Ceylon. Collected at the Botanic Garden, Hakgala, by Walter Koelz, Bureau of Plant Industry. An attractive evergreen shrub up to 15 feet high, with glossy oblong leaves 3 inches long and many cymes of small white flowers followed by white fruits. Native to eastern and southern Mexico. For trial in the lower South and on the Pacific coast. (Glenn Dale, Md.)

114743. *EURYA ACUMINATA*. (Theaceae.) Collected in Szechwan Province, China, and presented by the Sun Yat-Sen Tomb and Memorial Park Commission, Nanking. A tender shrub to 10 feet, with oblong-lanceolate leathery evergreen leaves of rich green color. The plants are always densely leaved. For trial in the warmest parts of the South and Southwest. (Glenn Dale, Md.)

111595. *FICUS ARCHERI*. (Moraceae.) From Colombia. Collected at Granja, Department de Caucaz Papayan, by W. A. Archer, Bureau of Plant Industry. Uvillo. A large tree with thick, lustrous, leathery, oblong-obovate to elliptic-obovate leaves 2½ to 3½ inches long and red edible fruits about one-half inch in diameter. For trial in the warmest parts of the Southwest and of the Gulf region. (Chico, Calif.)

123867. *FRAXINUS GREGGII*. (Oleaceae.) From New Mexico. Collected by L. N. Goodding, Soil Conservation Service. A large shrub, or small tree, up to 25 feet, native to Texas and New Mexico. With its persistent, rich-green leaves, composed of 3 to 7 small leathery leaflets, it is a very effective ornamental tree. For trial in the warmest parts of the South and Southwest. (Glenn Dale, Md.)

114952. *FUCHSIA ARBORESCENS*. (Onagraceae.) From Ceylon. Collected at Hakgala, by Walter Koelz, Bureau of Plant Industry. A shrub or small tree, with large, opposite or ternate, oblanceolate, red-veined leaves and dense terminal panicles of pink or purple flowers about one-half inch long. It is said to be one of the best species for winter flowering. Native to southern Mexico. For trial in the lower South and on the Pacific coast. (Glenn Dale, Md.)

125145. GAULTHERIA PERPLEXA. (Ericaceae.) From New Zealand. Received from Mrs. R. T. Richards, Canterbury. A small evergreen shrub, often procumbent, with narrow leaves up to one-half inch long and small solitary white flowers. Native to New Zealand. For trial in the middle California coast and the Gulf region. (Glenn Dale, Md.)

100629. HIBISCUS HUEGELII. (Malvaceae.) From Australia. Presented by Edwin Ashby, "Wittunga," Blackwood, South Australia. A bushy evergreen shrub, native to Australia, with 3- to 5-lobed coarsely toothed leaves 1 to 3 inches long and large violet-purple flowers 4 to 5 inches across, with twisted petals, borne in May. Propagated vegetatively by softwood cuttings. For trial in southern California and southern Florida. (Chico, Calif.)

76345. HYMENANTHERA CRASSIFOLIA. (Violaceae.) From France. Presented by Vilmorin-Andrieux & Company, Verrieres-le-buisson, Seine-et-Oise. A dense half-evergreen drought-resistant shrub up to 6 feet high, often with branches prostrate, with crowded obovate leaves, small yellowish-white or brownish flowers and small berrylike white fruits. It is useful for edging, also as a pot plant, and when so used should be cut back heavily while young to induce free branching. The plant has withstood a temperature of 11° F. It is propagated easily by cuttings. Native to New Zealand. For trial in California and the Gulf States. (Chico, Calif.)

128951. HYPERICUM OBLONGIFOLIUM.* (Hypericaceae.) St. Johnswort. From India. Presented by the Lloyd Botanic Garden, Darjeeling. A shrub 3 to 6 feet high, native to the temperate slopes of the Himalayas at altitudes of 5,000 to 7,000 feet. The sessile ovate-lanceolate leaves are 1 to 3 inches long, and the nodding flowers, 2 inches across, are white on opening, turning light yellow with age. For trial in all but the warmest parts of the South and on the Pacific coast. (Glenn Dale, Md.)

129231. HYPERICUM SP.* From China. Collected at an altitude of about 5,000 feet, on Mt. Omei, Szechwan Province, and presented by the Lu-Shan Arboretum and Botanic Garden, Kiukiang. The hypericums are herbaceous perennials to subshrubs with terminal bright-yellow flowers which vary greatly in size, according to the species. For trial in all but the most Northern States. (Glenn Dale, Md.)

129232. HYPERICUM SP.* Collected in Tien Chuan Hsien, Szechwan Province, and presented by the Lu-Shan Arboretum and Botanic Garden, Kiukiang. Collected at an altitude of about 7,000 feet. Same description as for the preceding (P. I. No. 129231). (Glenn Dale, Md.)

129233. HYPERICUM SP.* From China. Received from Lu-Shan, Kuan Hsien, Szechwan Province. Same description as for P. I. No. 129231. (Glenn Dale, Md.)

130078. HYPERICUM SP.* From China. Collected at an altitude of about 8,500 feet near Atuntze, Dokerla, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology and presented by the Arnold Arboretum, Jamaica Plain, Mass. Same description as for P. I. No. 129231. (Glenn Dale, Md.)

130079. HYPERICUM SP.* From China. Collected at an elevation of about 9,500 feet, near Yatsa, Muli, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. Same description as for P. I. No. 129231. (Glenn Dale, Md.)

130080. *HYPERICUM SP.** From China. Collected at an altitude of about 7,500 feet, near Guhtzum, Muli, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. Same description as for P. I. No. 129231. (Glenn Dale, Md.)

130081. *HYPERICUM SP.** From China. Collected at an elevation of about 8,000 feet, near Pautih, Chungtien, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. Same description as for P. I. No. 129231. (Glenn Dale, Md.)

66028. *ILEX PURPUREA OLDHAMII*. (Aquifoliaceae.) From Nanking China. Presented by M. L. Hancock, University of Nanking. A small much-branched tree with an abundance of glossy spineless evergreen leaves 3 to 4 inches long. The small purple flowers appear in May and are followed by large clusters of oval berries, one-quarter inch long, which become brilliant red in autumn and, as they extend beyond the foliage, give more color than those of most species. A 9-year-old tree at Chico, California, is 16 feet high, with equal spread. It has withstood a maximum temperature of 113° F., in full sun, and a minimum of 12° F., with no injury. Propagation is by stratified seed or by cuttings with the use of growth hormones. For trial on the Pacific coast and in the Southern States. (Chico, Calif.)

62810. *ILEX SIKKIMENSIS*. Holly. From India. Presented by G. H. Cave, Curator, Lloyd Botanic Garden, Darjeeling. A moderately tall Himalayan tree with stout branches, broadly oblong, leathery, spinose-dentate leaves 5 or 6 inches long, and globular yellow berries. For trial in the milder parts of California and in the Gulf region. (Chico, Calif.)

63793. *ILEX SP.* From China. Collected near Samshui, on the flood plain of the West River, in Kwantung Province, by F. A. McClure, Bureau of Plant Industry. A beautiful spreading evergreen tree up to 40 feet high, with smooth light-gray bark and glossy dark-green spineless leaves 2 to 4 inches long. The small white flowers, in axillary clusters and appearing in May, are followed, on pistillate trees, by red berries, slightly flattened and considerably smaller than a garden pea. The plants here offered, however, are staminate only and were grown from cuttings. For trial on the Pacific coast and in the East, from the Ohio River and Philadelphia to the Gulf. (Chico, Calif.)

102222-3. *INDIGOFERA GERARDIANA*. (Fabaceae.) Indigo. From France. Presented by L. Parde, Directeur des Ecoles Forestieres des Barres, Nogent-sur-Vernisson, Loiret. A handsome, low, heavily branched, densely leaved shrub. The rich-green pinnate leaves, with 6 to 8 pairs of leaflets, are 2 to 3 inches long. The red to violet-red flowers are borne in axillary racemes about 2 inches long throughout July and August. For trial from Philadelphia southward. (Glenn Dale, Md.)

122866. *INDIGOFERA LEPTOSTACHYA*. From India. Collected at an elevation of about 9,000 feet near Kulu, Punjab, by Walter Koelz, Bureau of Plant Industry. A well-formed, graceful, slender-branched shrub to 8 feet, growing in part shade on rather dry open ground. It produces an abundance of very attractive small rose-purple flowers. For trial in the southern half of the United States. (Glenn Dale, Md.)

130090. INDIGOFERA SP. From China. Collected near Wachin, Muli, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology and presented by the Arnold Arboretum, Jamaica Plain, Mass. The seedlings have pinnate leaves with light-green ovate leaflets about an inch long. For trial from Philadelphia southward. (Glenn Dale, Md.)

128208. IPOMOEA CAIRICA. (Convolvulaceae.) From Argentina. Collected in Cordoba Gardens, Cordoba, by H. L. Blood and L. Tremelling, Bureau of Plant Industry. An herbaceous perennial vine of moderate growth with palmately compound leaves about 4 inches across. The showy lavender flowers, $2\frac{1}{2}$ to 3 inches across, remain open until past noon, frequently until midafternoon. At Glenn Dale, Maryland, the plants survived the winter of 1938-39 out-of-doors. For trial from Philadelphia southward. (Glenn Dale, Md.)

128344. JACARANDA CAUCANA. (Bignoniaceae.) From Colombia. Presented by Dr. Vidal Y. Guitart, Escuela Superior de Agricultura Tropical, Cali, through Dr. David Fairchild. An erect deciduous tree, native to the Cauca Valley, Colombia. It is a favorite of the natives because of its beautiful, bright-blue flowers, about $1\frac{1}{2}$ inches long, borne in large terminal panicles in July just after the leaves drop. It is said to flower lightly in January also. The large bipinnate leaves, with numerous small leaflets, are typical of the genus. For trial in the warmest parts of Florida, the Gulf Coast, and the Southwest. (Glenn Dale, Md.)

128209. JACARANDA SP. From Bolivia. Collected at an altitude of about 8,000 feet near Sucre, by H. L. Blood and L. Tremelling, Bureau of Plant Industry. A tree with bipinnate leaves, with numerous small leaflets, resembling those of J. acutifolia. Flowers reported to be large, campanulate, and brown. For trial in the warmest parts of Florida, the Gulf coast, and the Southwest. (Supply very limited.) (Glenn Dale, Md.)

113769. KENNEDIA NIGRICANS. (Fabaceae.) From Australia. Presented by the Melbourne Botanic Gardens, South Yarra. A free-growing, twining, woody vine, from Western Australia, with very numerous leaves composed of 1 to 3 broadly ovate leaflets 2 to 5 inches long; the lateral leaflets when present are always smaller than the terminal. The deep violet-purple flowers, appearing during March and April, are about 1 inch in length and are borne in short axillary racemes which are obscured by the dense foliage. The plant withstands direct sunlight and high temperatures without injury and is reported to endure a minimum of 10° F., if not long continued. It is subject to red spider, thrips, and cottony cushion scale. Vegetative propagation is by soft-wood cuttings. For trial in southern Florida and southern California. (Chico, Calif.)

127792. LANTANA SP. From Peru. Collected at about 6,000 feet altitude, west of Curahausi, by H. L. Blood and L. Tremelling, Bureau of Plant Industry. Found growing as a low spreading shrub at varying altitudes along the roadside, among rocks. At Chico, Calif., the plants have grown to 5 feet high, with a spread of 6 feet. The somewhat cordate leaves and the alternating rose and golden flowers, in flat-topped heads, resemble Lantana camara but the plant is more attractive than the common forms of that species. For trial in California and the Southwest and in the Gulf region. (Chico, Calif.)

111060. *LEEA ASPERA*. (Vitaceae.) From India. Presented by the Lloyd Botanic Garden, Darjeeling, at the request of the Director of the Botanical Survey of India, Calcutta. A shrubby perennial up to 4 feet high, with handsome pinnate foliage, and juicy black fruits the size of large currants, which are said to be eaten by the natives of India. Native to the Himalayas up to 6,000 feet altitude. For trial in the milder parts of California and in the Gulf region. (Chico, Calif.)

78855. *LEYCESTERIA FORMOSA*.* (Caprifoliaceae.) From Oregon. Presented by the W. L. Crissey Alpine Gardens, Gresham. A handsome erect ornamental bush, closely allied to the honeysuckle, which is native to the cooler section of the Himalayas. It is from 6 to 8 feet high, with broadly cordate leaves 5 to 7 inches long, nodding terminal spikes of white flowers in the axils of the dark crimson bracts in late summer, and subglobose red-purple berries. At Glenn Dale, Maryland, the tops have been killed in severe winters, but the new growth of the following season has always been vigorous. With winter protection it should survive in all but the coldest of the Northern States. (Glenn Dale, Md.)

113773. *LIBERTIA IXIODES*. (Iridaceae.) From Australia. Presented by the Melbourne Botanic Gardens, South Yarra. A herbaceous perennial, native to New Zealand, with a short creeping rhizome which forms a compact clump like a *sisyrinchium*. It has rigid coriaceous linear leaves a foot long, and large panicles of small white flowers on a stem 2 feet high. Apparently best adapted for a somewhat humid climate. For trial on the Pacific coast and in the Southern States. (Chico, Calif.)

133415. *LOBELIA SPLENDENS*. (Lobeliaceae.) From New Mexico. Collected at Ropes Springs, by L. N. Goodding, Soil Conservation Service. A brilliant red-flowered lobelia very similar to *L. cardinalis* except that it is smaller in all its parts and is more tolerant of high temperatures. It is an herbaceous perennial that flowers in late summer. For trial from Washington, D.C., southward. (Glenn Dale, Md.)

126322-3. *LONICERA MICROPHYLLA*.* (Caprifoliaceae.) From Afghanistan. Collected at an altitude of about 11,000 feet near Sanglesh by Walter Koelz, Bureau of Plant Industry. A bush up to 6 feet high, with yellowish flowers and attractive red berries. It was found growing in dry streambeds and along cultivated areas. From its behavior at Glenn Dale, Maryland, the plant may require cooler summers for good growth. For trial in the northern half of the United States. (Glenn Dale, Md.)

126321. *LONICERA SP.* From Afghanistan. Collected at an altitude of about 10,000 feet, near Zebak, by Walter Koelz, Bureau of Plant Industry. A shrub from 4 to 5 feet high, found growing on wet plain. The lanceolate elliptic leaves and the reddish brown branches are covered with long hairs. The fruit has a huckleberry-like bloom. For trial in all but the hottest and coldest parts of the United States. (Glenn Dale, Md.)

22982. *LOROPETALUM CHINENSE*. From China. Collected at Soochow, Kiangsu, by F. N. Meyer, Bureau of Plant Industry. Native name, *Cho mei*. An ornamental evergreen shrub, allied to the witch-hazel, sometimes growing into a small tree. It bears elliptical to ovate dark-green leaves about 1½ inches long and in early spring is

covered with delightfully fragrant white flowers having slender strap-shaped petals half an inch long. It may be grown in a cool greenhouse, as well as out-of-doors where the winters are not too severe. It withstands summer heat in full sun at Chico, Calif., without irrigation. For pot culture a soil containing peat and sand is best. For trial out-of-doors from Philadelphia southward to the Gulf and on the Pacific coast. (Chico, Calif.)

112738. MAURANDYA ERUBESCENS. (Scrophulariaceae.) From Brazil. Collected in the State of Rio de Janeiro by Dr. Doris Cochran, United States National Museum, Washington, D.C. A vigorous woody climber with triangular, serrate, alternate, pubescent leaves. The showy trumpet-shaped rose-pink flowers are borne freely in late summer and fall and, in the warmest regions, through the winter. For trial only in the warmest parts of the Gulf region and the Southwest. (Glenn Dale, Md.)

129254. MELASTOMA SP. (Melastomaceae.) From China. Collected at an altitude of about 2,000 feet, on Mt. Omei, Szechwan Province, and presented by the Lu-Shan Arboretum and Botanic Garden, Kiukiang. The melastomas are small shrubs with large opposite, elliptic leaves and usually showy flowers of pink, magenta or light purple. For trial in the lower South and on the Pacific coast. (Glenn Dale, Md.)

129255. MELASTOMA SP. From China. Collected on Mt. Omei, Szechwan Province, and presented by the Lu-Shan Arboretum and Botanic Garden, Kiukiang. Same description as for preceding (P. I. No. 129254). (Glenn Dale, Md.)

57941. NATHUSIA ALATA. (Oleaceae.) From Transvaal. Presented by George Thorncroft, Barberton. A tree about 20 feet high with pinnately compound leaves, of 5 leaflets, which are persistent in the greenhouse. The pink, fragrant flowers, in terminal panicle cymes in early June, resemble those of jasmine. For trial in the warmest parts of the lower South and of the Southwest. (Glenn Dale, Md.)

124007. ONCOBA ROUTLEDGEI. (Flacourtiaceae.) From Egypt. Received from Alfred Bircher, El Saff, through the Atkins Institution of the Arnold Arboretum, Cienfuegos, Cuba. Undoubtedly one of the most handsome of recent introductions of tropical plants. It is a spiny shrub or small tree up to 20 feet high, with alternate lanceolate, glossy-green, persistent leaves about 4 inches long. The showy fragrant flowers are borne rather freely on the old wood, over a long period in late winter. The 8 to 10 pure-white petals, about 1 to 1½ inches long, surround a mass of golden yellow stamens. For trial in the warmest parts of Florida and southern California or under glass. (Glenn Dale, Md.)

124976. OPSIANDRA MAYA. (Phoenicaceae.) Maya palm. Originally from Guatemala. The seeds from which the present plants have come were the first crop produced in the United States and were from a tree grown by Dr. David Fairchild, at Coconut Grove, Fla., from a collection by O. F. Cook, Bureau of Plant Industry, near Uaxachtun, Department of Peten, Guatemala. The Maya palm is a graceful, feather-leaved tree attaining a height of 60 feet or more in the jungles of northern Guatemala. The trunk is 5 to 6 inches in diameter, marked with distinct leaf-scars as in the coconut palm, but resembling the royal palm in having rather long leaf sheaths. One of the peculiarities of the Maya palm is that 15 to 20 inflorescences appear along the trunk below the leaves over a period of 3 to 4 years before any begin to flower. Then

within a few months there are developed large ornamental clusters of bright-red fruits about the size and shape of cherries. This palm has grown well in the open in the limestone region of southern Florida. It requires direct sunlight during part of the day. For trial in southern Florida and the warmest parts of southern California. (Glenn Dale, Md.)

102908. OSBECKIA CRINITA. From India. Presented by the Lloyd Botanic Garden, Darjeeling, through Dr. Ralph A. Fenton. A much-branched shrub 4 to 8 feet high, with small narrow bristly leaves and large purple or pure-white flowers borne in terminal clusters. The plant is abundant at altitudes between 4,000 and 8,500 feet in the mountains of Sikkim and Bhutan, India. For trial in the Gulf region and in southern California. (Glenn Dale, Md.)

127055. PENTAS COCCINEA. (Rubiaceae). From British East Africa. Obtained from the Mt. Elgon Nurseries, Kitale, Kenya. A showy undershrub of rapid growth with large, bright-green leaves which are covered with short hairs. The long-tubed flowers are brilliant crimson; they are borne in umbel-like corymbs during the winter. The flowers are dimorphic and the individuals with exserted styles are more showy than those with exserted stamens. For trial in the warmest parts of the South and the Southwest. (Glenn Dale, Md.)

130165. PHILADELPHUS DELAVAYI.* (Hydrangeaceae). Mockorange. Collected at an altitude of about 10,000 feet, southwest of Atuntze, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology and presented by the Arnold Arboretum, Jamaica Plain, Mass. A vigorous shrub up to 15 or 20 feet high, with large pubescent, heavily-veined leaves on erect stems. The waxy-white flowers with thick petals, slightly tinged with purple on the outside, are borne in dense panicles. They have a pleasant fragrance that is distinct from that of the common philadelphus varieties. At Glenn Dale, Maryland, the tops are not reliably hardy. For trial from Philadelphia southward. (Glenn Dale, Md.)

130166. PHILADELPHUS DELAVAYI.* Mockorange. From China. Collected near Tingchang, Muli, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology and presented by the Arnold Arboretum, Jamaica Plain, Mass. Same description as for the preceding (P. I. No. 130165). (Glenn Dale, Md.)

130167. PHILADELPHUS SP.* (Hydrangeaceae.) From China. Collected in the Likiang Snow Range, at an elevation of about 9,000 feet by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology and presented by the Arnold Arboretum, Jamaica Plain, Mass. The seedling plants cannot be distinguished from those of Philadelphus delavayi, P. I. No. 130165. (Glenn Dale, Md.)

128198. PICEA GLAUCA.* (Pinaceae.) Spruce. From Massachusetts. Obtained from F. W. Schumacher, Jamaica Plain. A silvery-leaved form, originally found in British Columbia and northwestern Ontario. Received under the name "Hursti." For trial throughout the North and in the cooler parts of the South. (Glenn Dale, Md.)

121975. PICEA SMITHIANA.* Himalayan spruce. From India. Collected at Kulu, Punjab, by Walter Koelz, Bureau of Plant Industry. The Himalayan spruce is a lofty tree found in the mountains of northwestern India at altitudes of 7,000 to 11,000 feet. The terminal, drooping, pae-green cones are 4 to 6 inches long, and the stiff, sharp, spirally arranged green leaves are crowded into hanging, tail-like twigs when

young. The wood is extensively used for rough furniture and planking. For trial in all but the warmest and coldest parts of the United States. (Glenn Dale, Md.)

123244. *PICEA SMITHIANA*.* Himalayan spruce. From India. Obtained through the Kulu Forest Service, Kulu, Punjab, by Walter Koelz, Bureau of Plant Industry. Same description as for preceding (P. I. No. 121975). (Glenn Dale, Md.)

122590. *PINUS MASSONIANA*. Pine. From China. Collected in Shantung Province and presented by A. N. Steward, University of Nanking. A tall tree up to 80 feet high with spreading branches and yellowish brown branchlets. The thin slender light-green leaves, two to a sheath, are 5 to 8 inches long, and the dull-brown ovate cones are 3 to 5 inches long. It is native to southern China. For trial throughout the South. (Glenn Dale, Md.)

122692. *PINUS SP.* Collected southeast of Marash by H. L. Westover and F. L. Wellman, Bureau of Plant Industry. In the seedling stage, this pine resembles *Pinus massoniana*. There are two rather long bright green needles to a sheath. For trial in the southern half of the United States. (Glenn Dale, Md.)

122694. *PINUS SP.* From Turkey. Collected south of Balihsir by H. L. Westover and F. L. Wellman, Bureau of Plant Industry. Same description as for the preceding (P. I. No. 122692). (Glenn Dale, Md.)

122695. *PINUS SP.* From Turkey. Collected north of Koycegiz by H. L. Westover and F. L. Wellman, Bureau of Plant Industry. Same description as for P. I. No. 122692. (Glenn Dale, Md.)

122696. *PINUS SP.* From Turkey. Collected north of Chankiri by H. L. Westover and F. L. Wellman, Bureau of Plant Industry. Same description as for P. I. No. 122692. (Glenn Dale, Md.)

122697. *PINUS SP.* From Turkey. Collected north of Kastamonu, by H. L. Westover and F. L. Wellman, Bureau of Plant Industry. Same description as for P. I. No. 122692. (Glenn Dale, Md.)

101290. *PITTOSPORUM BUCHANANI*. From New Zealand. Obtained from A. Wilkinson, Tauranga. A handsome evergreen shrub or small tree up to 20 feet high, native to New Zealand. The elliptic to lanceolate, membranous leaves, 2 to 5 inches long, are glabrous and glossy when mature and the small dark-purple flowers are borne in axillary clusters. For trial in California and the Gulf region. (Chico, Calif.)

99195. *PITTOSPORUM DAPHNIPHYLLOIDES*. From China. Collected by Albert N. Steward, University of Nanking, at 1,800 feet altitude, near Machaoho, Fang Chingshan, Kiang-kouhsien, Kweichow Province. An evergreen shrub about 15 feet tall, with elliptical dark glossy green leaves 5 to 10 inches long, suggesting those of the genus *Daphniphyllum*, and with green fruits containing scarlet seeds. The shrub does well in partial shade at Chico, Calif., even during the summer, but in full sun the foliage burns seriously. It has survived uninjured a minimum temperature of 12° F. under lath and is apparently adaptable to pot culture. Vegetative propagation is effected by terminal softwood cuttings. For trial in the lower South and the Southwest and on the Pacific coast. (Chico, Calif.)

105620. *PITTOSPORUM GLABRATUM*. (Pittosporaceae.) From China. Collected at an altitude of 1,100 feet near Ta Tseh Tsuen, Yung Hsien, Kwangsi Province, by Albert N. Steward and H. C. Cheo, University of Nanking. A large open evergreen shrub or small tree about 10 feet high, native to northeastern India and central China, with glossy oblong-lanceolate leaves 3 or 5 inches long and mostly clustered near the ends of short branches. The small fragrant yellow flowers, produced in corymbs, are succeeded by orange globose fruits which open and expose their red seeds. Vegetative propagation is by terminal softwood cuttings. For trial in California and the Gulf region. (Glenn Dale, Md.)

111371. *PITTOSPORUM GLABRATUM*. From China. Presented by H. H. Chung, National Wu-Han University, Wuchan, Hupeh. Same description as for preceding (P. I. No. 105620). Plants of this introduction have withstood a maximum temperature of 113° F. and a minimum of 12° F., under lath at Chico, Calif., and appear to be suited to pot culture. (Chico, Calif.)

114275. *PODOPHYLLUM EMODI*. (Berberidaceae.) Himalayan mayapple. From India. Collected by the Asiatic Expedition. A herbaceous perennial with 3- to 5-lobed leaves of splendid bronzy-red in early spring. The plants are in leaf throughout the season. The flowers, often soft pink, open before the leaves mature and are held above the foliage. The brilliant-red fruits are about 2 inches long. In other respects this resembles the native *P. peltatum*. For trial throughout the country. (Glenn Dale, Md.)

129267. *PTEROCARYA* SP.* (Juglandaceae.) Wingnut. From China. Collected in Tien Chuan Hsien, Szechwan Province, and presented by the Lu-Shan Arboretum and Botanic Garden, Kiukiang. A handsome tree of rapid growth, sometimes attaining a height of 60 feet, with large, pinnately compound leaves. The flowers are insignificant but the winged nuts that follow, in dense hanging racemes, are very showy. For trial from Philadelphia southward. (Glenn Dale, Md.)

74222. *QUERCUS MYRSINAEFOLIA*. (Fagaceae.) Oak. A handsome evergreen oak up to 40 feet high, with lanceolate serrate leaves 3 to 5 inches long, smooth and shining above and covered with a whitish bloom underneath. The ovoid acorns, nearly an inch long and one-third covered by the smooth cup, are borne in short spikes. For trial from Philadelphia to the Gulf and on the Pacific coast. (Savannah, Ga.)

128995. *QUERCUS* SP. (Fagaceae.) From China. Collected by R. C. Ching, and presented by the Lu-Shan Arboretum, Kiukiang. An evergreen oak with bright-green, entire, lanceolate leaves about 4 inches long. For trial from Washington, D. C., southward. (Glenn Dale, Md.)

128917. *RANDIA* SP. (Rubiaceae.) From India. Collected at Londa, Bombay Presidency, by Walter Koelz, Bureau of Plant Industry. A small tree or shrub with bright-green, glossy, finely pubescent leaves about 2 to 3 inches long. For trial in the warmest parts of Florida and the Southwest. (Glenn Dale, Md.)

126349. *RHAMNUS* SP. (Rhamnaceae.) From Afghanistan. Collected at Najil by Walter Koelz, Bureau of Plant Industry. A rather attractive shrub with upright branches about 6 feet long, found growing on a dry slope. The blackish fruit, about one-quarter inch in diameter, is rather insipid. For trial in all but the warmest parts of the Southern States and on the Pacific coast. (Glenn Dale, Md.)

123559. RHODODENDRON ARBOREUM.* (Ericaceae.) From India. Collected at Kodaikanal, Palni Hills, Madras Presidency, by Walter Koelz, Bureau of Plant Industry. A scrubby tree not over 25 feet high, with a trunk often 2 feet in diameter, growing on most dry sunny slopes where no other trees grow. The pubescent leaves are oblong and about 4 inches long and 2 inches wide. It should tolerate high temperatures. The flowers are crimson, sometimes spotted with black. For trial from Tennessee southward. (Glenn Dale, Md.)

115811. RHUS LANCEA. (Anacardiaceae.) Sumac. From the Union of South Africa. Presented by the McGregor Museum, Kimberley. Karree-boom. A small bushy tree with gray bark and long-stemmed leaves with linear-lanceolate leaflets 4 to 6 inches long. It is a valuable hardwood tree for mild regions of limited rainfall. Native to the Cape of Good Hope. For trial in the warmer parts of the Southwest. (Chico, Calif.)

130319. RHUS SP. From China. Collected at Atuntze (Hungpoh), by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology and presented by the Arnold Arboretum, Jamaica Plain, Mass. A vigorous plant with pinnate leaves composed of 9 to 13 leaflets of the size and shape of elm leaves. The leaf rachis is reddish, as are the young leaves. It may be of use where luxuriant foliage effects are desirable. For trial in the South. (Glenn Dale, Md.)

78107. SARCOCOCCA HOOKERIANA.* (Buxaceae.) From France. Purchased from E. Turbat & Co., Orleans. A handsome evergreen shrub 6 to 8 feet high, of slow growth, native to Afghanistan, with coriaceous lanceolate entire leaves 2 to 4 inches long, axillary racemes of small whitish fragrant flowers, and subglobose black fruits. The plants do best in cool, partly shaded positions. For trial in all but the coldest and warmest parts of the country. (Glenn Dale, Md.)

126535. SENECIO SALIGNUS. (Asteraceae.) Collected near Patagonia, Arizona, and presented by Fred Gibson, Director, Boyce Thompson Southwestern Arboretum, Superior, Arizona. A handsome well-branched evergreen shrub which attains a height of about 8 feet. The golden-yellow flowers, in large terminal cymes, are produced in midwinter. For trial in the warmest parts of Florida and the Gulf coast and the Southwest. (Glenn Dale, Md.)

132796. SOPHORA CHRYSOPHYLLA. (Fabaceae.) From Hawaii. Presented by L. W. Bryan, Board of Commissioners of Agriculture and Forestry, Hilo. An attractive native Hawaiian tree up to 30 feet high, with pinnate leaves with 13 to 20 obovate-oblong obtuse leaflets one-half to 1 inch long, tawny or grayish pubescent beneath, less so above, and pale-yellow flowers about an inch long, followed by 4-winged pods 4 to 6 inches long. For trial in southern Florida and southern California. (Chico, Calif.)

122964. SPIRAEA CANESCENS. (Rosaceae.) From India. Collected at Koli, Kulu, Punjab, by Walter Koelz, Bureau of Plant Industry. A shrub, sometimes 12 feet high, with long arching branches, small broad-oval to obovate leaves and rather small white flowers in dense corymbs 2 to 3 inches across. Native to the Himalayan region. For trial in the South and on the Pacific coast. (Glenn Dale, Md.)

129287. SPIRAEA SP. Collected at an altitude of about 10,000 feet on Mt. Omei, Szechwan Province, and presented by the Lu-Shan Arboretum and Botanic Garden, Kiu-kiang. A spirea with small 3-lobed leaves somewhat resembling S. trilobata. For trial throughout the United States. (Glenn Dale, Md.)

130390. SPIRAEA SP.* From China. Collected at an elevation of about 9,000 feet, near Wachin, Muli, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. The seedlings of this group have leaves like those of the preceding (P. I. No. 129287) but they are much more vigorous in growth at Glenn Dale. For trial throughout the United States. (Glenn Dale, Md.)

130391-2. SPIRAEA SP.* From China. Collected at an elevation of about 10,000 feet, near Sigenn, Muli, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. The wedge-shaped leaves are somewhat three-lobed at the tip. For trial throughout the United States. (Glenn Dale, Md.)

130393. SPIRAEA SP.* From China. Collected at an elevation of about 10,000 feet, near Sigenn, Muli, Yunnan, by T. T. Yu, with the Yunnan Expedition of the Fan Memorial Institute of Biology, and presented by the Arnold Arboretum, Jamaica Plain, Mass. A spirea of moderately vigorous growth, with irregularly crenate, almost lobed leaves. For trial throughout the United States. (Glenn Dale, Md.)

112091. SYNCARPIA GLOMULIFERA. (Myrtaceae.) Turpentine tree. From Africa. Received from the Forest Department, Kenya Colony, through the Atkins Institution of the Arnold Arboretum, Cienfuegos, Cuba. A tall slender evergreen tree of rapid growth, native to Australia, with broadly ovate opposite leaves 3 to 4 inches long, appearing as if in whorls from two pairs being close together. The small white flowers are in globular clusters of 6 to 10 on short peduncles at the base of the new shoots. The wood is said to be very valuable for posts and underground construction work and also for cabinet work. For trial in the coastal region of southern California and in southern Florida. (Chico, Calif.)

110502. THLADIANTHA DUBIA. (Cucurbitaceae.) From Manchuria. Presented by B. W. Skvortzov, Botanical Department, 2nd High School, Chinese Eastern Railway, Harbin, through H. G. MacMillan, Bureau of Plant Industry. A dioecious, tuberous rooted, herbaceous climber with pale-green heart-shaped leaves about 3 inches long. The showy campanulate, bright-yellow flowers, nearly 2 inches across, are borne from June 15 until fall, in large numbers. Native to northern China. For trial throughout the United States. (Glenn Dale, Md.)

114809. TREMA SP. (Ulmaceae.) From China. Presented by the Botanic Garden at Nanking. An evergreen small tree of rapid growth with glossy lanceolate celtis-like leaves about 5 inches long. Vegetative propagation may be difficult unless softwood cuttings are treated with a growth substance. For trial in the lower south. (Glenn Dale, Md.)

114202. TRICYRTIS FORMOSANA X HIRTA. (Melanthiaceae.) From Japan. Obtained from K. Wada, Hakoneya Nurseries, Numazu-shi. Toun, a hybrid similar in habit to hirta. The flowers, borne on a terminal open panicle, are variable in color, some thickly speckled and blotched with rich red purple on a ground of pale pink; others are similarly marked with blue-purple on a light-blue base. The plants are vigorous when grown under optimum conditions of medium shade and plentiful moisture. For trial throughout the United States. (Glenn Dale, Md.)

100632. *VIMINARIA DENUDATA*. (Fabaceae.) Rush-broom. From Australia. Presented by Edwin Ashby, "Wittunga," Blackwood, South Australia. An Australian shrub with rushlike stems up to 20 feet high, long wiry pendulous branches, leaves reduced to filiform petioles 6 to 9 inches long, and terminal racemes of orange-yellow flowers. (Supply very limited.) For trial in the warmest parts of the Southwest. (Chico, Calif.)

B A M B O O S

For the convenience of Experimenters, the bamboos of which plants are available are listed all together here. The shipping weight ranges usually from 1 to 2 pounds per plant. Bamboos in general require a moderately moist but well-drained soil, of good fertility. Attention of experimenters is directed to the fact that small bamboo plants, even more than most other plants, require frequent watering until well established; this means for at least 2 or 3 months after planting.

93573. *BAMBUSA LONGISPICULATA*. (Poaceae.) From India. Presented by R. N. Parker, Forest Botanist, Forest Research Institute and College, Dehra Dun, United Provinces. A tropical clump bamboo growing to 50 feet high, with 10 to 12 leaves up to 9 inches long, on a branchlet. For trial in the warmer parts of southern Florida and southern California. (Savannah, Ga.)

99289. *BAMBUSA MULTIPLEX*.* Hedge bamboo. Presented by Jas. H. Wells, formerly of Baldwin, Fla., who obtained it from C. E. Pleas, Chipley, Fla. Variety Disticha striata. An oriental fern-leaved dwarf variety of the hedge bamboo in which the culms, or stems, are more or less pinkish, with slender green stripes. The varietal characteristics are somewhat unstable, however, and if small plants are grown in rich soil in the open there is a tendency to revert to the larger parent form; the striping of the culm then disappears and the foliage changes from the fern-leaf type. In its dwarf phase the plant grows about 6 feet high but in the reverted form it attains 15 feet or more. It endures temperatures down to about 16° F. with little or no injury to the foliage.

77013. *BAMBUSA VENTRICOSA*.* Buddha bamboo. From China. Presented by Lingnan University, Canton. A clump-forming bamboo growing up to about 25 feet high in the open but commonly grown by the Chinese as a pot or tub plant. Under this culture it is dwarfed to about 3 feet and the internodes of the culms and branches become swollen in a characteristic manner, to which fact is due the Chinese name Fut t'io chuk (Buddha's belly bamboo). The plant quickly loses its foliage in the dry atmosphere and deficient light of ordinary living rooms. The lanceolate leaves of the dwarfed plants are 1 to 4 inches long but on larger plants in the open the leaves are nearly twice as long. As grown in the open this bamboo is reported to have withstood temperatures down to about 20° F. with little or no injury. For trial outside in the milder parts of California and the Gulf region and elsewhere under glass. (Savannah, Ga.)

80875. *BAMBUSA TULDOIDES*. Bamboo. From China. Presented by Lingnan University, Canton. Chaang ko chuk. A handsome thick-walled bamboo probably up to 50 feet high, used in China for a variety of industrial purposes and especially for punting poles. (A form of this species which has long been known in Florida, under the horticultural name *Bambusa thouarsii*, is hardy down to 20° F.) Plants furnished in lots of 1 to 5. For trial in the southern parts of Florida and California and on the Texas coast. (Savannah, Ga.)

77014. *BAMBUSA* SP. From China. Presented by Lingnan University, Canton. Chinese name Koon yam chuk (goddess-of-mercy bamboo). A small, graceful, fern-leaved bamboo 5 to 10 feet high, of clump type, resembling the variety of *Bambusa multiplex* under P. I. No. 99289 in foliage characters but differing in being less stiffly erect and being perhaps slightly hardier. The leaves are extremely small and closely 2-ranked, on slender branchlets or twigs which curl downward toward the tips in a characteristic manner. The entire plant is plain green. This handsome little bamboo is one of the hardiest of the clump type and at Savannah, Ga., has withstood temperatures as low as 15° F. It is commonly grown as a hedge in southern China and is said to respond admirably to pruning. It is also well suited for growing in individual clumps in the open or for pot culture in the moist atmosphere of the greenhouse. In the dry air and subdued light of living rooms, however, the foliage quickly turns yellow and falls. For trial outside in the South Atlantic and Gulf regions and in the milder parts of the Pacific coast, and under glass elsewhere. (Savannah, Ga.)

80873. *BAMBUSA* SP. From China. Presented by the Lingnan University, Canton. Chinese name Fan tsan chuk. A bamboo from the northern and western parts of Kwangtung Province. It is a medium large, thin-walled, semihardy, clump bamboo, used chiefly by the Chinese for making steam-trays for restaurants. It is said to be too brittle for most weaving purposes or for making rope but is extremely ornamental on account of the compact clump habit and the tall straight culms, which are gray with siliceous powder. The culms are naked of branches to a height of 12 to 15 feet in mature plantings. This bamboo has withstood a minimum temperature of about 17° F. with little injury to the foliage. For trial in the Gulf region and in the warmer parts of California. (Savannah, Ga.)

124504. *DENDROCALAMUS STRICTUS*. (Poaceae.) From Florida. Presented by Julian Nally, Gotha. A tropical and subtropical clump bamboo, growing 50 feet or more high, with thick-walled or sometimes nearly solid culms, up to about 3 inches in diameter. The wood is dense and strong and it is reported that the so-called Calcutta fishing poles exported from India are of this species. The plants are injured or killed at a temperature of 26 or 27 degrees F. For trial only in southern Florida or in protected situations in central Florida and southern California. (Supply limited.) (Savannah, Ga.)

42659. *PHYLLOSTACHYS BAMBUSOIDES*. (Poaceae.) Bamboo. From Japan. Obtained from the Yokohama Nursery Co. Variety Castillon. A medium-sized ornamental variety of the giant timber bamboo, growing to about 30 feet high, with golden-yellow culms and branches with a conspicuous green stripe on the flattened side of each internode. The leaves occasionally bear narrow creamy-white stripes. The foliage is evergreen at temperatures down to about 5° F., but at a few degrees lower the plants are killed to the ground or severely injured. The plant spreads by vigorous underground rhizomes

from which the new culms arise. It grows to full size only in grove form, in an area at least 30 feet across, and after 10 or more years. Artificial means are required to keep the grove within bounds. Culms 3 years old are useful for fishing poles, plant stakes, etc. The edible shoots, with characteristic smooth, spotted and blotched sheaths, appear in spring. Plants supplied in lots of 5 or more. The first season the plants should be grown $1\frac{1}{2}$ to 2 feet apart in nursery row, in well-fertilized soil, and be freely watered in dry weather. In the late winter or early spring following, transplant with ball of earth to permanent situation, on good well-drained land, spaced 8 to 10 feet apart each way. Well-rotted manure or a good commercial fertilizer should be placed in the hole. New plants from rhizomes left in digging should appear in the nursery in spring and can be transplanted later. For trial from North Carolina to the northern Gulf region and on the Pacific coast. (Savannah, Ga.)

75156. PHYLLOSTACHYS FLEXUOSA. Bamboo. From England. Presented by the Director, Royal Botanic Gardens, Kew. A rather small, hardy bamboo of the running type, native to China, which grows to a height of 16 feet or more. The linear-lanceolate leaves, usually 2 or 3 on a branchlet, are 2 to 4 inches long. The culms, when 3 years old, are useful for plant stakes, small fishing poles, etc. The cold resistance and cultural treatment required are the same as for Phyllostachys bambusoides (P. I. No. 42659) but the spacing of the plants in the permanent planting should be 6 to 8 feet. Plants will be furnished in lots of 5 or more. For trial on the Pacific coast and in the milder parts of the South. (Chico, Calif.)

49505. PHYLLOSTACHYS NIGRA. Black bamboo. Presented by the California Nursery Co., Niles, Calif. Variety Punctata. A black-spotted hardy bamboo from Japan, of rather slow-spreading habit, growing to about 25 feet high. The culms are at first green but later become increasingly spotted or blotched with black until nearly, but not quite, solid black. The leaves endure temperatures as low as about 5° F. without serious injury. The habits of growth and the methods of culture and control are the same in general as for Phyllostachys bambusoides but the spacing in setting plants permanently should be 6 to 8 feet apart. This variety can be grown to full size in an area 20 to 25 feet across. The culms are useful for fishing poles, canes, plant stakes, etc. Plants will be sent in lots of 5 or more. For trial in the Pacific coast region and in all except the warmest parts of the Southern States. (Savannah, Ga.)

66784. PHYLLOSTACHYS NIGRA. Black bamboo. From China. Collected in a ravine on Peng Mountain, Lungtau Mts., in Kwangtung Province, and presented by Lingnan University, Canton. Chinese name Oo chuk. A handsome variety differing from the preceding (P. I. No. 49505) in being more rapid spreading and in that the culms are not quite so tall, that they become solid purplish black in the second year, and in having somewhat drooping foliage. In China no special use is made of the culms but they can be used for purposes in which much strength is not required. Plants will be furnished in lots of 5 or more. For trial in all but the warmest parts of the Southern States and on the Pacific coast. (Savannah, Ga.)

24761. PHYLLOSTACHYS NIGRA HENONIS. From Japan. Originally obtained by Wm. D. Hills, Bureau of Plant Industry. The present plants are grown from material received from E. A. McIlhenny, Avery Island, La. Japanese name Hachiku. A hardy giant bamboo of running habit, ultimately producing culms 50 feet high and $3\frac{1}{2}$ inches in diameter. The edible new shoots appear during April and May. The shoots are easily dis-

tinguished from those of other giant bamboos in that the sheaths which at first enfold them are unspotted mauve, with a small crinkly green pseudophyll, or blade, at the apex of each sheath. This is considered the hardiest of the giant bamboos but it is more or less injured at temperatures lower than 0° F. Culture same as for Phyllostachys bambusoides, but in permanent planting the original spacing should be not less than 10 feet. Plants furnished in lots of 15 or more, for growing in grove form only. For trial in the milder parts of the Southern States, except southern Florida, and on the Pacific coast. (Savannah, Ga.)

55713. PHYLLOSTACHYS SP. Bamboo. From China. Collected by F. N. Meyer, Bureau of Plant Industry. A hardy evergreen bamboo of running type, to 25 feet high. This species is easily distinguished from others of similar appearance by the yellowish color of the flattened sides of the internodes of culms and branches during the first year or two, while the rounded parts are green. Grows to full size only in grove form, in an area at least 25 feet across, and after several years. Culms useful for plant stakes, fishing poles, etc. This bamboo was for a time sent out under the name Phyllostachys nevinii but is now considered to be of another, apparently undescribed, species. Its climatic and cultural requirements are the same as for P. bambusoides, (P. I. No. 42659). Plants furnished in lots of 15 or more. For trial in the milder parts of the South, except southern Florida, and on the Pacific coast. (Savannah, Ga.)

116768. PHYLLOSTACHYS SP. Bamboo. From China. Collected by F. N. Meyer, Bureau of Plant Industry. (Formerly sent out under P. I. No. 23234.) A hardy running bamboo, to 25 feet high, with dense foliage. It resembles Phyllostachys aurea but there is never any crowding of the lower internodes of the culm as in that species. The conditions under which plants will be furnished to experimenters and the cultural requirements and uses of culms are the same as for P. bambusoides (P. I. No. 42659). (Savannah, Ga.)

89709. PLEIOBLASTUS CHINO (Arundinaria chino). (Poaceae.) Bamboo. Obtained from V. N. Gauntlett & Co., Chiddingfold, England. Variety Laydeker. A dwarf hardy bamboo of running habit, 2½ to 3 feet high. The slender culms, usually without branches the first year, bear 10 to 12 lanceolate or linear-lanceolate dark-green leaves and in the second year the branches bear 5 or 6 leaves, mostly toward the tips. The leaves are 2 to 5 inches long, the longer and more slender ones being near the tips, and they are sometimes irregularly mottled with pale green or dull yellow. This bamboo is not very attractive but because of its vigor may be useful as a ground cover where more desirable plants do not thrive. It should be watched for possible development of a weedy habit. Plants will be furnished in lots of 5 or more. For trial in the middle and upper South and on the Pacific coast. (Savannah, Ga.)

52673. PLEIOBLASTUS PUMILUS (Sasa pumila). Bamboo. Presented by Vilmorin, Andrieux & Co., Paris, France. A dwarf hardy running bamboo, native to Japan, often growing only 6 to 10 inches high in warm localities but up to 2 feet in partial shade or in cooler regions. The narrow lanceolate leaves 1½ to 3½ inches long are borne 8 to 10 in number, near the tips of the culms and branches. The plant thrives in fairly moist soil and in suitable situations is useful as a ground cover. In drier locations the leaves tend to curl in hot dry weather. Because of its small size, grasslike

leaves, and rampant underground rhizomes, the plant becomes a weed and is difficult to eradicate when it escapes. In proximity to a garden it is especially important to curb it. Plants furnished in lots of 3 or more. For trial in the milder parts of the Northern States. (Savannah, Ga.)

73962. *SASA AUREO-STRIATA*. (Poaceae.) From Japan. Obtained from the Yokohama Nursery Company, Yokohama. A dwarf hardy running bamboo, 1 to 2 feet high, native to Japan. The lanceolate or narrow-lanceolate leaves, $1\frac{1}{2}$ to 5 inches long, are usually yellowish striped in spring and early summer but mostly become plain green later. This handsome little species makes an exceedingly attractive ground cover in protected situations in regions where the minimum winter temperature is not much lower than 0° F. The leaves are often killed at temperatures several degrees higher but recovery of the plants in the spring is fairly rapid. Because of the vigor of the underground parts of the plant it may become weedy if the rhizomes are not prevented from spreading by a barrier of some sort. Plants furnished in lots of 3 to 10. For trial in the middle and upper South and on the Pacific coast. (Savannah, Ga.)

52670. *SASA AURICOMA*. Bamboo. Presented by Vilmorin, Andrieux, & Co., Paris, France. A dwarf hardy bamboo of the running type, 1 to 2 feet high, native to China and Japan. It is a strikingly handsome little species, having green-and-yellow striped leaves $1\frac{1}{2}$ to 6 inches long and up to three-quarters of an inch wide. It is very similar to *Sasa aureo-striata*. Plants furnished in lots of 3 to 10. For trial in the middle and upper South and on the Pacific coast. (Savannah, Ga.)

75162. *SASA CHRYSANTHA*. Bamboo. Presented by the Director, Royal Botanic Gardens, Kew, England. A hardy Japanese bamboo of running habit, producing culms up to 5 feet high, with branches from the upper nodes and with lanceolate leaves 2 to 7 inches long. The plant is useful for mass planting and as a ground cover, either in full sun or partial shade, and is evergreen at temperatures down to about 10° F. Even when killed back it recovers well in the late spring. Plants furnished in lots of 3 to 10. For trial in the middle and upper South and the mildest parts of the Northern States. (Chico, Calif.)

52674. *SASA PYGMAEA*. Bamboo. Presented by Vilmorin, Andrieux & Co., Paris, France. One of the smallest known bamboos, often growing only 6 to 10 inches high. It is of the hardy running type and is a native of Japan. The leaves, 1 to 2 inches long, are green above and whitish pubescent beneath. The cold resistance of the plant is about the same as that of *Sasa aureo-striata* and the habits and cultural requirements are also much the same. Plants furnished in lots of 3 to 10. For trial in the middle and upper South and on the Pacific coast. (Savannah, Ga.)

52671. *SEMIARUNDINARIA FASTUOSA* (*Arundinaria fastuosa*). (Poaceae.) Narihira bamboo. Presented by Vilmorin, Andrieux & Co., Paris, France. An exceptionally handsome, hardy bamboo up to 25 feet high, native to Japan. It is of running habit but the rhizomes are less rampant than those of most hardy bamboos. The smaller culms are densely clothed for almost their entire length by the dark-green lanceolate leaves, which are up to 7 inches long and borne on numerous upright branches. Taller culms, as in other bamboos, are without branches on the lower part. An area at least 15 feet across is required for the ultimate production of full-sized culms. The plant withstands a minimum temperature of 0° F. with little injury to the foliage but is killed back to the ground at a few degrees lower. Young plants must be watered very frequently in dry weather during the entire first season. Plants furnished in lots of 1 to 5 or up to 15 where desired for propagation. For trial from Philadelphia southward and on the Pacific coast. (Savannah, Ga.)

